

Switchgear assemblies



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Preface

This is the ninth edition of CSA C22.2 No. 31, *Switchgear assemblies*, one of a series of Standards issued by the Canadian Standards Association under Part II of the *Canadian Electrical Code*. It supersedes previous editions published in 2004, 1989, 1983, 1977, 1972, 1965, 1958, and 1939.

This new edition contains numerous updates in the text, tables, and annexes of the Standard. It must be read in its entirety in order to fully assess all of the changes that have been made from the previous edition.

For general information on the Standards of the *Canadian Electrical Code, Part II*, see the Preface of CAN/CSA-C22.2 No. 0.

This Standard was prepared by the Working Group on Switchgear Assemblies, under the jurisdiction of the Integrated Committee on Switchgear Products, the Technical Committee on Industrial Products, and the Strategic Steering Committee on Requirements for Electrical Safety. The standard has been formally approved by the Technical Committee.

Interpretations: The Strategic Steering Committee on Requirements for Electrical Safety has provided the following direction for the interpretation of the standards under its jurisdiction: "The literal text shall be used in judging compliance of products with the safety requirements of this Standard. When the literal text cannot be applied to the product, such as for new materials or construction, and when a relevant committee interpretation has not already been published, CSA's procedures for interpretation shall be followed to determine the intended safety principle."

September 2010

Notes:

- (1) Use of the singular does not exclude the plural (and vice versa) when the sense allows.
- (2) Although the intended primary application of this Standard is stated in its Scope, it is important to note that it remains the responsibility of the users of the Standard to judge its suitability for their particular purpose.
- (3) This publication was developed by consensus, which is defined by CSA Policy governing standardization — Code of good practice for standardization as "substantial agreement. Consensus implies much more than a simple majority, but not necessarily unanimity". It is consistent with this definition that a member may be included in the Technical Committee list and yet not be in full agreement with all clauses of this publication.
- (4) CSA Standards are subject to periodic review, and suggestions for their improvement will be referred to the appropriate committee.
- (5) All enquiries regarding this Standard, including requests for interpretation, should be addressed to Canadian Standards Association, 5060 Spectrum Way, Suite 100, Mississauga, Ontario, Canada L4W 5N6.
Requests for interpretation should
 - (a) define the problem, making reference to the specific clause, and, where appropriate, include an illustrative sketch;
 - (b) provide an explanation of circumstances surrounding the actual field condition; and
 - (c) be phrased where possible to permit a specific "yes" or "no" answer.

Committee interpretations are processed in accordance with the CSA Directives and guidelines governing standardization and are published in CSA's periodical Info Update, which is available on the CSA Web site at www.csa.ca.

C22.2 No. 31-10

Switchgear assemblies

1 Scope

1.1

This Standard applies to deadfront indoor enclosed and outdoor enclosed assemblies of switchgear devices such as

- (a) switches;
- (b) interrupting devices;
- (c) air circuit breakers;
- (d) power circuit breakers; and
- (e) control, metering, protective, and regulating equipment with associated interconnections and supporting structures.

1.2

This Standard covers equipment with a nominal voltage of 46 kV or less that is intended to be used

- (a) in accordance with the rules of the *Canadian Electrical Code, Part I*;
- (b) in non-hazardous locations;
- (c) for controlling and protecting the power from generators or other sources; and
- (d) for supplying electrical energy to power and lighting circuits.

1.3

General requirements applicable to this Standard are given in the latest edition of CAN/CSA-C22.2 No. 0.

1.4

This Standard does not apply to panelboards, industrial control equipment, switchboards for communication circuits (see the *Canadian Electrical Code, Part I*), or low-voltage assemblies consisting of separately supported enclosed switches, enclosed circuit breakers, and possibly service meters, with interconnection between them enclosed in raceways.

Note: *Manufacturers and installers of switchgear assemblies approved under this Standard should take due note of the Canadian Electrical Code, Part I, with respect to the location of switchgear devices in areas where certain components might not be acceptable.*

1.5

Clauses 2 to 6 apply to all switchgear assemblies and are supplemented and amended

- (a) by Clause 7 for low-voltage switchgear assemblies; and
- (b) by Clause 8 for high-voltage switchgear assemblies.

1.6

In CSA standards, “shall” is used to express a requirement, i.e., a provision that the user is obliged to satisfy in order to comply with the standard; “should” is used to express a recommendation or that which is advised but not required; and “may” is used to express an option or that which is permissible within the limits of the standard.

Notes accompanying clauses do not include requirements or alternative requirements; the purpose of a note accompanying a clause is to separate from the text explanatory or informative material.

Notes to tables and figures are considered part of the table or figure and may be written as requirements.

Annexes are designated normative (mandatory) or informative (nonmandatory) to define their application.